

CLAIM AMENDMENTS

- 1 1. (Canceled)
- 1 2. (Currently amended) A method as recited in Claim 1~~8~~, further comprising:
2 receiving, from a first host on the network, a third message requesting a network address;
3 and
4 sending, to the first host in response to the second message, a second response offering a
5 first network address based on the first set of network addresses and the second
6 set of network addresses.
- 1 3. (Original) A method as recited in Claim 2, wherein the first set includes the first network
2 address and the second set does not include the first network address.
- 1 4. (Currently amended) A method as recited in Claim 1~~8~~, further comprising receiving from
2 a network administrator a third message indicating a third set of network addresses for
3 dynamically configuring hosts on the network.
- 1 5. (Canceled)
- 1 6. (Currently amended) A method as recited in Claim 5~~8~~, further comprising reporting the
2 usage of the first set of network addresses.
- 1 7. (Canceled)
- 1 8. (Currently amended) ~~A method as recited in Claim 5,~~ A method of providing sets of
2 network addresses for dynamically configuring hosts on a network, the method comprising the
3 computer-implemented steps of:
4 assigning one or more subnets of a given size to a pool of available subnets;
5 sending a first request from a first host for a first count of network addresses for a first set
6 of network addresses for dynamically configuring hosts on the network;

7 determining if there are available network addresses in a pool of available addresses and
8 if not then selecting a first subnet from the pool of available subnets and adding
9 said selected first subnet's network addresses to said pool of available addresses;
10 receiving a first message indicating the first set of network addresses;
11 receiving a second message from a second host requesting a second count of network
12 addresses for a second set of network addresses for dynamically configuring hosts
13 on the network;
14 determining the second set of network addresses based at least in part on the first set of
15 network addresses and the second count;
16 sending a first response indicating the second set of network addresses;
17 determining usage of the first set of network addresses wherein the usage comprises a
18 proportion of a number of network addresses used compared to a total number of
19 addresses in the first set;
20 wherein:
21 the first message further indicates a first time interval for use of the first set; and
22 the method further comprises sending, before the first time interval expires, a second
23 request for renewal of use of the first set; and
24 the second request includes data indicating the usage of the first set.

1 9. (Currently amended) A method as recited in Claim 1-8 further comprising the computer-
2 implemented steps of:

3 receiving a third message for renewal of use of the second set, the third message
4 including data indicating the usage of the second set,
5 determining a third set of network addresses for dynamically configuring hosts on the
6 network based on the second set and the usage of the second set wherein the
7 usage is determined in part based on a number of network addresses used in a
8 local table of leased network addresses for subnets used; and
9 sending a second response indicating the second set of network addresses.

1 10. (Currently amended) A method as recited in Claim 1-8, wherein each set of the first set
2 and the second set is indicated by a base address and a number indicating a range of addresses
3 above the base address.

1 11. (Original) A method as recited in Claim 10, wherein the number indicating the range is a
2 mask that indicates a number of most significant bits in the base address that are constant over
3 the range.

1 12. (Currently amended) A method as recited in Claim ~~1~~8, wherein the second set is empty.

1 13. (Currently amended) A method as recited in Claim ~~1~~8, wherein the second set is the same
2 as the first set.

1 14. (Currently amended) A method as recited in Claim ~~1~~8, wherein the hosts on the network
2 include interfaces on a router on the network.

1 15. (Currently amended) A method as recited in Claim ~~1~~8, further comprising:
2 receiving, from a router on the network, a third message requesting a third count of
3 network addresses for a third set of network addresses for configuring interfaces
4 on the router;
5 determining the third set of network addresses based at least in part on the first set of
6 network addresses, the second set of network addresses, and the third count; and
7 sending, to the router in response to the third message, a second response indicating the
8 third set of network addresses.

1 16. (Currently amended) A method as recited in Claim ~~1~~8, wherein:
2 the first message received includes data indicating that a first server should send a third
3 set of network addresses for dynamically configuring hosts on the network; and
4 the method further comprises sending, in response to the data indicating that the first
5 server should send the third set, a second request for the third set of network
6 addresses.

1 17. (Original) A method as recited in Claim 16, further comprising receiving, from the first
2 server in response to the second request, a third message indicating the third set of network
3 addresses.

1 18. (Currently amended) A method as recited in Claim 18, further comprising:
2 determining that a third set of network addresses should be sent based at least in part on
3 the first set and the second set; and
4 inserting into the first response data indicating that a third set of network addresses for
5 dynamically configuring hosts on the network should be sent.

1 19. (Previously presented) A method as recited in Claim 18, wherein:
2 the method further comprises determining usage of the first set of network addresses
3 wherein the usage is determined in part based on a number of network addresses
4 used in a local table of leased network addresses for subnets used.; and
5 said step of determining that a third set of network addresses should be sent is based at
6 least in part on the usage of the first set.

1 20. (Original) A method as recited in Claim 18, further comprising receiving, in response to
2 the data indicating that the third set of network addresses should be sent, a third message
3 requesting the third set of network addresses.

1 21. (Previously presented) A method of providing sets of network addresses for dynamically
2 configuring hosts on a network, the method comprising the computer-implemented steps of:
3 receiving, from a first server on the network, a first message indicating a first set of
4 network addresses for dynamically configuring hosts on the network and a first
5 time interval for use of the first set, wherein the first set is selected from a first
6 subnet's available network addresses in a pool of available address;
7 determining usage of the first set of network addresses wherein the usage is determined in
8 part based on a number of network addresses used in a local table of leased
9 network addresses for subnets used; and
10 sending, to the first server before the first time interval expires, a second request for
11 renewal of use of the first set,
12 wherein the second request includes data indicating the usage of the first set.

1 22. (Previously presented) A method of providing sets of network addresses for dynamically
2 configuring hosts on a network, the method comprising the computer-implemented steps of:

3 sending, to a first server on the network, a first message indicating a first set of network
4 addresses for dynamically configuring hosts on the network and a first time
5 interval for use of the first set, wherein the first set is selected from a first subnet's
6 available network addresses in a pool of available address;
7 receiving, from the first server before the first time interval expires, a request for renewal
8 of use of the first set, the request including data indicating the usage of the first
9 set wherein the usage is determined in part based on a number of network
10 addresses used in the local table of leased network addresses for subnets used;
11 determining a second set of network addresses for dynamically configuring hosts on the
12 network based on the first set and the usage of the first set; and
13 sending to the first server a second message indicating the second set of network
14 addresses.

1 23. (Currently amended) A method provided in Claim 18 further comprising the computer-
2 implemented steps of:

3 receiving, from ~~the~~ a first server in response to the first request, a first message including
4 first data indicating the first set of network addresses and second data indicating
5 that the first server should send a second set of network addresses for dynamically
6 configuring hosts on the network; and
7 sending, to the first server in response to the data indicating that the first server should
8 send the second set, a second request for the second set of network addresses.

1 24. (Canceled)

1 25. (Currently amended) A computer-readable medium carrying one or more sequences of
2 instructions for providing sets of network addresses for dynamically configuring hosts on
3 a network, which instructions, when executed by one or more processors, cause the one
4 or more processors to carry out the steps of:
5 assigning one or more subnets of a given size to a pool of available subnets;
6 sending a first request from a first host for a first count of network addresses for a first set
7 of network addresses for dynamically configuring hosts on the network;
8 determining if there are available network addresses in a pool of available addresses and
9 if not then selecting a first subnet from the pool of available subnets and adding
10 said selected first subnet's network addresses to said pool of available addresses;
11 receiving, in response to the first request, a first message indicating the first set of
12 network addresses;
13 receiving a second message from a second host requesting a second count of network
14 addresses for a second set of network addresses for dynamically configuring hosts
15 on the network;
16 determining the second set of network addresses based at least in part on the first set of
17 network addresses and the second count; and
18 sending, in response to the second message, a first response indicating the second set of
19 network addresses;
20 determining usage of the first set of network addresses wherein the usage comprises a
21 proportion of a number of network addresses used compared to a total number of
22 addresses in the first set;
23 wherein:
24 the first message further indicates a first time interval for use of the first set; and
25 the method further comprises sending, before the first time interval expires, a second
26 request for renewal of use of the first set; and
27 the second request includes data indicating the usage of the first set.

1 26. (Currently amended) An apparatus for providing sets of network addresses for
2 dynamically configuring hosts on a network, comprising:

3 means for assigning one or more subnets of a given size to a pool of available subnets;
4 means for sending a first request from a first host for a first count of network addresses
5 for a first set of network addresses for dynamically configuring hosts on the
6 network;
7 means for determining if there are available network addresses in a pool of available
8 addresses and if not then selecting a first subnet from the pool of available subnets
9 and adding said selected first subnet's network addresses to said pool of available
10 addresses;
11 means for receiving, in response to the first request, a first message indicating the first set
12 of network addresses;
13 means for receiving a second message from a second host requesting a second count of
14 network addresses for a second set of network addresses for dynamically
15 configuring hosts on the network;
16 means for determining the second set of network addresses based at least in part on the
17 first set of network addresses and the second count; ~~and~~
18 means for sending, in response to the second message, a first response indicating the
19 second set of network addresses;
20 means for determining usage of the first set of network addresses wherein the usage
21 comprises a proportion of a number of network addresses used compared to a
22 total number of addresses in the first set;
23 wherein:
24 the first message further indicates a first time interval for use of the first set; and
25 further comprising means for sending, before the first time interval expires, a second
26 request for renewal of use of the first set; and
27 the second request includes data indicating the usage of the first set.

- 1 27. (Currently amended) An apparatus for providing sets of network addresses for
2 dynamically configuring hosts on a network, comprising:
3 a network interface that is coupled to the network for sending and receiving one or more
4 packet flows therefrom;
5 a processor; and

one or more stored sequences of instructions which, when executed by the processor,
cause the processor to carry out the steps of:
assigning one or more subnets of a given size to a pool of available subnets;
sending a first request from a first host for a first count of network addresses for a
first set of network addresses for dynamically configuring hosts on the
network;
determining if there are available network addresses in a pool of available
addresses and not any then selecting a first subnet from the pool of
available subnets and adding said selected first subnet's network addresses
to said pool of available addresses;
receiving, in response to the first request, a first message indicating the first set of
network addresses;
receiving a second message from a second host requesting a second count of
network addresses for a second set of network addresses for dynamically
configuring hosts on the network;
determining the second set of network addresses based at least in part on the first
set of network addresses and the second count; and
sending, in response to the second message, a first response indicating the second
set of network addresses;
determining usage of the first set of network addresses wherein the usage
comprises a proportion of a number of network addresses used compared
to a total number of addresses in the first set;
wherein:
the first message further indicates a first time interval for use of the first set; and
the sequences of instructions further cause carrying out sending, before the first
time interval expires, a second request for renewal of use of the first set;
and
the second request includes data indicating the usage of the first set.

28. (Currently amended) A method as recited in Claim 18, wherein the second message
includes data indicating that a requesting device that issued the second message does not

3 make assignments of individual network addresses from among the second set of network
4 addresses such that all future requests for such assignments will be relayed back.

1 29. (Currently amended) A method as recited in Claim ~~18~~8, wherein the second message
2 includes data indicating that a requesting DHCP server should free the second set of
3 network addresses as soon as possible by making no new assignments of addresses or
4 subnets therefrom.

1 30. (Currently amended) A method as recited in Claim ~~18~~8, wherein the second message
2 includes data indicating that a requesting DHCP server should discontinue use of the
3 second set of network addresses when all addresses in the subnet are unassigned.

1 31. (Canceled)